AARHUS UNIVERSITY

Press release

Please fill in this form and return it to graduateschoolhealth@au.dk in Word format no later than three weeks prior to your defence.

Basic information

Name: Asbjørn Graver Petersen Email: aspe@biomed.au.dk Phone: 30293574

Department of: Biomedicine

Main supervisor: Professor Ulf Simonsen

Title of dissertation: Protective role of KCa3.1 ion channel blockers in animal models of acute respiratory distress syndrome

Date for defence: 15 March at (time of day): 17.00 Place: Online

Press release (Danish)

Den beskyttende effekt af KCa3.1 ionkanal blokkere i dyremodeller for akut respiratorisk distress syndrome

Akut respiratorisk distress syndrom (ARDS) er en hyppig årsag til lungesvigt i kritisk syge patienter og er karakteriseret ved en øget permeabilitet af blod-lunge barrieren. Denne skrøbelige barriere er nøje reguleret af ionkanalers aktivitet, men en skade på lungen kan medføre at disse signalveje bliver forstyrret. Dette forårsager en akut dannelse af lungeødem efterfulgt af hypoxi og et behov for respiratorbehandling. På nuværende tidspunkt er effektiv farmakoterapi mod ARDS yderst begrænset, men et nyt fokus på ionkanaler i blod-lunge barrieren giver håb om nye behandlingsmuligheder. I dette ph.d.-projekt undersøges rollen af to ionkanaler; calcium-aktiverede kaliumkanaler med intermediær konduktans (KCa3.1) og cystic fibrosis transmembrane conductance regulator (CFTR) og deres terapeutiske potentiale vurderes gennem en række prækliniske studier.

Ph.d.-projekt er fra Aarhus Universitet, Health. Projektet er gennemført af Asbjørn Graver Petersen, der forsvarer det d. 15 marts.

Forsvaret af ph.d.-projektet er offentligt og vil pga. COVID-19 restriktioner blive gennemført virtuelt. Link til virtuel deltagelse kan tilsendes ved kontakt til Asbjørn Graver Petersen. Titlen på projektet er ”Protective role of KCa3.1 ion channel blockers in animal models of acute respiratory distress syndrome”. Yderligere oplysninger: Ph.d.-studerende Asbjørn Graver Petersen, e-mail: aspe@biomed.au.dk, tlf. +45 30293574.

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Press release (English)

AARHUS UNIVERSITY

Protective role of KCa3.1 ion channel blockers in animal models of acute respiratory distress syndrome

Acute respiratory distress syndrome (ARDS) is a common cause of respiratory failure in critically ill patients and is characterized by increased permeability of the alveolar-capillary barrier. The delicate structure of the alveolar-capillary barrier is tightly regulated by ion channels, but damage to the lung can disrupt these processes and lead to acute onset of pulmonary edema, hypoxemia, and a need for respiratory support. At present, effective pharmacotherapy for ARDS remains limited, but the discovery of new targets in the alveolar endothelial and epithelial barriers sparks optimism. This PhD project explores the role of two ion channels; namely, calcium-activated potassium channel of intermediate conductance (KCa3.1) and the cystic fibrosis transmembrane conductance regulator (CFTR) channel, and investigates their therapeutic potential in a series of pre-clinical studies.

The project was carried out by Asbjørn Graver Petern, who is defending his dissertation on the 15th of March.

The defence is public and will due to COVID-19 restrictions take place online. The link is available from Asbjørn Graver Petersen. The title of the project is "Protective role of KCa3.1 ion channel blockers in animal models of acute respiratory distress syndrome". For more information, please contact PhD student Asbjørn Graver Petersen, email: aspe@biomed.au.dk, Phone +45 30293574.

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